

**WHAT IS CLAIMED IS:**

1    1.    A method comprising:

2                 reading one or more event data, the one or more event data corresponding to an  
3                 event monitored from a system;

4                 for each event datum, compressing the event datum if the event datum is  
5                 determined to be compressible;

6                 creating a processed event record, the processed event record conforming to a  
7                 record format; and

8                 storing the one or more event data in the processed event record in accordance  
9                 with the record format.

1    2.    The method of claim 1, wherein said creating a processed event record and storing  
2                 the one or more event data in the processed event record in accordance with the  
3                 record format comprises one of the following:

4                 if one or more of the one or more event data is determined not to be compressible,  
5                 then:

6                 creating an uncompressed event record in an uncompressed record format;  
7                 and

8                 storing each event datum in an uncompressed format in the uncompressed  
9                 event record;

10          if each of the one or more event data is determined to be compressible, then:

11                 creating a compressed event record in a compressed record format; and

12                 storing each event datum in a compressed format in the compressed event  
13                 record; and

14          if one or more of the one or more event data is determined not to be compressible,  
15                 then:

16                   creating a hybrid event record in a hybrid record format; and  
17                   storing each uncompressed event datum in an uncompressed format in the  
18                   hybrid event record, and storing each compressed event datum in a  
19                   compressed format in the hybrid event record.

- 1     3.       The method of claim 1, wherein said compressing each event datum comprises  
2                   characteristics-based compression.
- 1     4.       The method of claim 3, wherein the characteristics-based compression comprises  
2                   using a selected one of one or more compression algorithms to compress the event  
3                   datum, wherein the selected compression algorithm compresses the event datum  
4                   in accordance with one or more characteristics of the event datum.
- 1     5.       The method of claim 4, additionally comprising setting the one or more  
2                   compression algorithms.
- 1     6.       The method of claim 3, wherein the characteristics-based compression algorithm  
2                   comprises for at least one of the one or more event data:
  - 3                   generating a hash from a value, the value based, at least in part, on one or more  
4                   characteristics of a given event datum of the at least one of the one or  
5                   more event data;
  - 6                   mapping the hash to a dictionary index in a dictionary, the index corresponding to  
7                   a dictionary entry; and
  - 8                   if the dictionary entry corresponds to the given event datum, then outputting the  
9                   dictionary index.
- 1     7.       The method of claim 6, additionally comprising if the dictionary entry does not  
2                   correspond to the given event datum, then outputting the given event datum.
- 1     8.       A method comprising:
  - 2                   reading one or more processed event records from an event buffer, each processed  
3                   event record including one or more processed event data corresponding to

4                   one or more uncompressed event data; and

5                   generating one or more client uncompressed event data corresponding to the one  
6                   or more uncompressed event data, said generating one or more client  
7                   uncompressed event data including one of:

8                   decompressing an event datum if the event datum is in a compressed  
9                   format; and

10                  outputting an event datum if the event datum is not in a compressed  
11                  format.

1     9.       The method of claim 8, wherein said decompressing the event datum comprises:  
2                  mapping a plurality of bits of the event datum to a dictionary index in a  
3                  dictionary, each entry in the address dictionary including a dictionary  
4                  index and a corresponding dictionary entry; and  
5                  using the dictionary entry to obtain the one or more uncompressed event datum.

1     10.      The method of claim 9, wherein if the event datum is not in a compressed format:  
2                  generating a hash value from a compression value, the compression value based,  
3                  at least in part, on the event datum;  
4                  mapping the hash value to a dictionary index in a dictionary having one or more  
5                  entries, each entry corresponding to a hash value and a dictionary entry;  
6                  replacing the dictionary entry with the compression value, said replacing  
7                  occurring at an entry of the dictionary corresponding to the hash value.

1     11.      An apparatus comprising:  
2                  circuitry capable of:  
3                  reading one or more event data, the event data corresponding to an event  
4                  monitored from a system;

5       for each event datum, compressing the event datum if the event datum is  
6                   determined to be compressible;  
  
7       creating a processed event record, the processed event record conforming to a  
8                   record format; and  
  
9       storing the one or more event data in the processed event record in accordance  
10                  with the record format.

- 11     12. The apparatus of claim 11, wherein said circuitry is further capable of using  
12                  characteristics-based compression on each event datum.
- 1     13. The apparatus of claim 12, wherein said circuitry is further capable of using a  
2                  selected one of one or more compression algorithms to compress the event datum,  
3                  wherein the selected compression algorithm compresses the event datum in  
4                  accordance with one or more characteristics of the event datum.
- 1     14. The apparatus of claim 13, wherein said circuitry is further capable of setting the  
2                  one or more compression algorithms.
- 1     15. A system comprising:  
  
2                  circuitry capable of:  
  
3                          reading one or more event data, the event data corresponding to an event  
4                          monitored from a system;  
  
5                  for each event datum, compressing the event datum if the event datum is  
6                          determined to be compressible;  
  
7                  creating a processed event record, the processed event record conforming  
8                          to a record format; and  
  
9                  storing the one or more event data in the processed event record in  
10                          accordance with the record format; and

- 11           a compiler to read the processed event record.
- 1     16.   The system of claim 15, wherein said circuitry is further capable of using  
2           characteristics-based compression on each event datum.
- 1     17.   The system of claim 16, wherein said circuitry is further capable of using a  
2           selected one of one or more compression algorithms to compress the event datum,  
3           wherein the selected compression algorithm compresses the event datum in  
4           accordance with one or more characteristics of the event datum.
- 1     18.   The system of claim 17, wherein said circuitry is further capable of setting the one  
2           or more compression algorithms.
- 1     19.   A machine-readable medium having stored thereon instructions, the instructions  
2           when executed by a machine, result in the following:  
3           reading one or more event data, the event data corresponding to an event  
4           monitored from a system;  
5           for each event datum, compressing the event datum if the event datum is  
6           determined to be compressible;  
7           creating a processed event record, the processed event record conforming to a  
8           record format; and  
9           storing the one or more event data in the processed event record in accordance  
10          with the record format.
- 1     20.   The machine-readable medium of claim 19, wherein said instructions, when  
2           executed by the machine, additionally result in the machine using characteristics-  
3           based compression on each event datum.
- 1     21.   The machine-readable medium of claim 20, wherein said instructions, when  
2           executed by the machine, additionally result in the machine using a selected one  
3           of one or more compression algorithms to compress the event datum, wherein the  
4           selected compression algorithm compresses the event datum in accordance with

5 one or more characteristics of the event datum.

1 22. The machine-readable medium of claim 21, wherein said instructions, when  
2 executed by the machine, additionally result in the machine setting the one or  
3 more compression algorithms.